GE
Grid Solutions

UR Family

Version 8.5x

Release Notes

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Overview

This document contains the release notes for firmware versions 8.50 and for Enervista Setup Software version 8.50 and 8.51 of the GE Universal Relay (UR) family of products.

This release note is applicable to the products: B30, B90, C30, C60, C70, C95, D30, D60, F35, F60, G30, G60, L30, L60, L90, M60, N60, T35, T60

Date of release:

Firmware 8.50: November 2023

Software 8.50: November 2023

Software 8.51: March 2024

Note: Major firmware releases can introduce new protection and control elements that can affect the device's Modbus memory map. Check the summary of released features to find out if it applies to a particular release.

Highlights Enervista Setup Software 8.50

- **NEW** - Enhanced oscillography record to include active protection settings
- **NEW** – Added support for PMU CFG-3 configuration frames
- **NEW** – Added support for leap second
- **NEW** - Added support for IEC 61850 service tracking
- **NEW** – Added support for dynamic selection of preconfigured IEC 61850 datasets
- **NEW** – Added support for digital counter actual values to be mapped into IEC 61850 GGIO4
- **NEW** – Added support for the IEC 61850 LCCH logical node in the main CPU and the PBM to enable PRP monitoring
- **NEW** – Added support for IEC 61850 buffered/ unbuffered report reservation
- **NEW** – Added support for IEC 61850 NdsCom data attribute
- **NEW** – Added "Test Mode Trip Security" setting for the security enhancements to the IOC and differential elements

- Increase the number of simultaneous IEC 61850 clients to six
- Enhanced out of sequence monitoring for IEC 61850 GOOSE messages
- Changed IEC 61850 “RcdMade” data object to a pulse
- Increased the number of digital counters from 8 to 16 in C70
- Increased the number of Direct I/O to 64 in certain products with direct fiber IRC module
- Increased the minimum value of the distance function current supervision 0.05 pu to 0.1pu
- Added conditions for applying the charging current compensation in the 87L line differential element

Highlights Enervista Setup Software 8.51

- Bug fixes
- IEC 61850 enhancements

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Firmware

In the following descriptions, a category letter is placed to the left of the title. See the table at the end of this document for descriptions of the categories.

Firmware 8.50

Capacitor Bank Protection and Control Systems – C70

E **Increased the number of digital counters from 8 to 16 in C70**

Products: C70
Impacted firmware: All
Applicable firmware: 8.50
Workaround: None
Description: In previous versions, the C70 relay supports only 8 digital counters. In firmware version 8.50, the number of digital counters in the C70 relay is increased to 16.
GE tracking number: 850-1

Feeder Protection Systems – F60

C **Fixed HiZ RMS records after rebooting the relay**

Products: F60 with HiZ module (8Z)
Impacted firmware: All
Corrected firmware: 8.50
Workaround: None
Description: In previous versions, some of the HiZ RMS records were lost after a relay reboot. In firmware version 8.50, this issue is fixed.
GE tracking number: 850-2

Line Differential Systems – L90, L30

G **Added conditions for applying the charging current compensation in the 87L line differential element**

Products: L90, L30
Impacted firmware: All
Corrected firmware: 8.50
Workaround: Perform manual settings validation.
Description: In firmware version 8.50, the charging current compensation is applied only if zero sequence capacitive reactance value is greater than or equal to the positive sequence capacitive reactance value (Xc0 >= Xc1) and both are strictly positive. Prior to this release these conditions were not validated, allowing users to use incorrect settings values.
GE tracking number: 850-3

G **87L blocking /unblocking when PTP clock available on CPU and PBM ports.**

Products: L90, L30

Impacted firmware: 7.80 to 8.43

Corrected firmware: 8.50

Workaround: None

Description: In previous firmware releases when PTP clock was available on both CPU and PBM ports and subsequently PTP clock was lost on the CPU port, the 87L would use incorrectly PBM PTP clock for asymmetry compensation, which could result in 87L synchronization error. In 8.5 firmware release the firmware was changed to block 87L if relays is using PBM PTP clock and asymmetry compensation is enabled.

GE tracking number: 850-4

Common Protection and Control Elements

F **Increased the minimum value of the distance function current supervision from 0.05 pu to 0.1 pu**

Products: D30, D60, G60, L60, L90, T60

Impacted firmware: All

Applicable firmware: 8.50

Workaround: None

Description: In previous versions, the phase distance setting "PHS DIST Z1 SUPV" and ground distance setting "GND DIST Z1 SUPV" had a minimum value of 0.05 pu. Setting values less than 0.2 pu are not recommended. In firmware version 8.50, the minimum value for these settings was raised from 0.05 pu to 0.1 pu. During setting file upgrade to the newer firmware version, current supervision settings below 0.1pu are converted to the 0.1pu

GE tracking number: 850-5

E **Added "Test Mode Trip Security" setting for the security enhancements to the IOC and differential elements**

Products: All

Impacted firmware: 7.28, 8.21, 8.30 to v8.43

Corrected firmware: 8.50

Workaround: None

Description: In the previous versions, the security enhancements for IOC and for differential elements (87 Mismatch OP signal) are blocked when the relay is in the test mode. In firmware version 8.50, a new setting "Test Mode Trip Security" is added. Enabling this setting allows the security enhancements for IOC and for differential elements to be active also when the relay is in test mode.

GE tracking number: 850-6

G **Fixed initial state of Breaker Arcing Current DPO operand**

Products: B30, C60, C70, C95, D30, D60, F35, F60, G30, G60, L30, L60, L90, M60, T35, T60

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In the previous versions, in the initial state after a relay bootup both the Breaker Arcing DPO (dropout) and the OP (operate) FlexOperands is Off, which is incorrect because the two operands are the inverse of one another. The breaker arcing element is working correctly, with this exception. In firmware version 8.50, this issue is fixed, the initial state of the BKR ARC DPO operand is On and the state of the BRK ARC OP operand is Off.

GE tracking number: 850-7

Communications

C **Added support for PMU CFG-3 configuration frames**

Products: All with PMU software option
Impacted firmware: All
Corrected firmware: 8.50
Workaround: None
Description: In the previous versions, relays with synchrophasor software option, only PMU CFG-1 and CFG-2 configuration frames are supported. In firmware version 8.50, support for the optional per IEEE C37.118-2 standard PMU CFG-3 configuration frame format was added.
GE tracking number: 850-8

C **Added support for leap seconds**

Products: All
Impacted firmware: All
Corrected firmware: 8.50
Workaround: None
Description: In the previous versions, the UR relays did not support leap seconds functionality. In firmware version 8.50, support for leap seconds per Coordinated Universal Time (UTC) was added.
GE tracking number: 850-9

C,E **Increase the number of simultaneous IEC 61850 clients to six**

Products: All with IEC 61850 software option
Impacted firmware: All
Corrected firmware: 8.50
Workaround: None
Description: In previous versions, UR relays with IEC6 1850 order code support a maximum of five simultaneous IEC 61850 clients. In firmware version 8.50, the UR relay can support a maximum of six simultaneous IEC 61850 clients.
GE tracking number: 850-10

C,E **Changed FIRMWARE to accept PTP frames with invalid UTC offset**

Products: All with PTP software option
Impacted firmware: All
Affected firmware: 8.50
Workaround: None
Description: In previous versions, the PTP flags timePropertiesDS.currentUtcOffsetValid and flagField.ptpTimescale were considered when deciding whether the announce message is valid or not. Hence, if UtcOffsetValid was false, the relay would assert the "BAD PTP Signal" self-test. In the firmware version 8.50, the relay is accepting an announce message with the invalid UTC Offset and the flag ptpTimescale set to false, and is using the previous "UTCOffset" value published by the PTP signal to calculate UTC time.
GE tracking number: 850-11

C,E **Increased the number of Direct I/O to 64 in certain products with direct fiber IRC module**

Products: B30, C60, C70, C95, D30, D60, F35, F60, G30, G60, L60, M60, T35, T60

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In the previous versions, the affected products only supported 32 direct I/O. In firmware version 8.50, in the affected products when the order code includes an Inter Relay Communication (IRC) module with direct fiber, the number of direct I/O was increased to 64.

GE tracking number: 850-12

C,N Added support for IEC 61850 service tracking (LTRK logical node)

Products: All with IEC 61850 software option

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, the UR relay did not support IEC 61850 service tracking. In firmware version 8.50, support for IEC 61850 service tracking was added. According to IEC 61850-7-1, "Service tracking is represented by the logical node LTRK and is defined as the function in charge of recording, after a service execution, the parameters values used by any service defined in IEC 61850-7-2. It is thus possible to read, report or log these values for system behaviour analysis.". In the UR, the SrvLTRK logical node has been modelled with six data objects: SpcTrk, DpcTrk, IncTrk, EncTrk1, UrcbTrk and BrcbTrk.

GE tracking number: 850-13

C,E Added support for SV stream validation based on SynchSrcID

Products: All with Process Bus Module

Impacted firmware: 7.80 to 8.43

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, UR relays with Process Bus Module (PBM) did not support SV stream validation based on SynchSrcID. In firmware version 8.50, support for SV stream validation based on SynchSrcID was added. The SynchSrcID attribute is used to accept the SV streams which are synchronized to same grand master clock.

GE tracking number: 850-14

C,N Added support for digital counter actual values to be mapped into IEC 61850 GGIO4

Products: All with IEC 61850 software option

Impacted firmware: All

Corrected firmware: 8.50

Workaround: If TFTP is not used, blocking the protocol by the firewall is recommended.

Description: In the previous versions, digital counter actual values (accumulated and frozen values) could not be mapped to the IEC 61850 protocol. In the firmware version 8.50, digital counters actual values can be transmitted using the IEC 61850 GGIO4 mapping.

GE tracking number: 850-15

C,E Changed IEC 61850 "RcdMade" data object to a pulse

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: The IEC 61850 data object "RcdMade" (record made) in the OscRDRE logical node indicates

when a new oscillography recording has been completed and the corresponding file is available. In previous versions, “RcdMade” was set by the first oscillography recording and could only be reset by clearing the oscillography. In firmware version 8.50, the "RcdMade" data object is set to "Transient". A pulse will be generated when a new record is available. A GOOSE message will be published on both rising and falling edge of the pulse when configured in Fast dataset."

GE tracking number: 850-16

C,N Added support for the IEC 61850 LCCH logical node in the main CPU and the PBM to enable PRP monitoring

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, the UR relay did not support the mapping of the IEC 61850 LCCH logical node. In firmware version 8.50, PRP monitoring is possible using the IEC 61850 LCCH logical node, which models common issues for redundant physical channels.

GE tracking number: 850-17

C,E Added out of sequence monitoring for IEC 61850 GOOSE messages received out of sequence

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, IEC 61850 StNum and SqNum attributes are used to monitor received GOOSE messages. In firmware version 8.50, extended Data Objects “OoSeqGo” and “OosErrCnt” are added to LGOS logical node. StNum and SqNum missing Counters have been added to RxGOOSE diagnostics page.

GE tracking number: 850-18

C,E Added support for IEC 61850 NdsCom data attribute

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: The IEC 61850 NdsCom data attribute indicates in the messages that some commissioning is required. In previous versions, UR relays did not support the NdsCom attribute. In firmware version 8.50, new data object NdsCom has been added to LGOS logical node. LGOS#.NdsCom is updated, when the incoming GOOSE message is received with NdsCom parameter set to TRUE and when a subscribed GOOSE message is identified using matching destination MAC and gocbRef, and any of the following fields are mismatched: APPID, ConfRev, goID, Dataset, number of members.

GE tracking number: 850-19

C,E Added support for IEC 61850 buffered/unbuffered reports reservation

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, UR relays did not support reserving an IEC 61850 buffered or unbuffered report to a specific client logical node. In firmware version 8.50, support for reserving an IEC

61850 BRCB or URCB to a specific client logical node within the scope of SCL was added by instantiating the ClientLN element under the RptEnabled element.

GE tracking number: 850-20

C,E Added support for dynamic selection of preconfigured IEC 61850 datasets

Products: All with IEC 61850 software option

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, UR relays did not support dynamic selection of IEC 61850 datasets. In firmware version 8.50, support was added for dynamic selection of preconfigured IEC 61850 datasets. The user is now able to dynamically select any dataset from the preconfigured datasets in a CID file.

GE tracking number: 850-21

C Corrected IEC 61850 SCL modeling of redundant protocol support in the main CPU and PBM

Products: All with IEC 61850 software option

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In firmware version 8.50, when the redundancy protocol is configured (PRP for the main CPU, and PRP or HSR in the PBM), the IEC 61850 ConnectedAP elements are modelled with redundant protocol support by adding the attribute “redProt = prp(hsr)” in the ConnectedAP element and the PhysConn elements.

GE tracking number: 850-22

C Changed FIRMWARE to reject simultaneous IEC61850 commands (open/close breaker or switch) from two different clients

Products: All with IEC 61850 software option

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, the relay was accepting IEC61850 commands (open/close breaker/switch), received within operTimeout, from two different clients. In firmware version 8.50, if the relay receives IEC 61850 commands (open/close breaker/switch) within operTimeout from two different clients, the relay will reject the second command.

GE tracking number: 850-23

C Removed weak ciphers in relays with cyber security

Products: All with CyberSentry or IEC 61850 software options

Impacted firmware: 7.00 to 8.43

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, relays with cyber security include ciphers which are considered weak. These ciphers are used in the SSH communication protocol. In firmware version 8.50, the ciphers considered weak have been removed.

GE tracking number: 850-24

C Corrected IEC 61850 edition 1 ReportControl section in the SCL files

Products: All with IEC 61850 software option

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, the IEC 61850 edition 1 SCL files were missing the “index=”false”” attribute in the ReportControl. In firmware version 8.50, this issue is corrected.

GE tracking number: 850-25

C **Corrected PBM PRP mode being disabled after a minor firmware upgrade**

Products: All with Process Bus Module

Impacted firmware: 7.80 to 8.43

Corrected firmware: 8.50

Workaround: In previous versions, after a minor firmware upgrade the PBM PRP mode was disabled. Rebooting the relay solves the problem. In firmware version 8.50, this issue is fixed.

GE tracking number: 850-26

C **Corrected IEC 61850 q.Test bit for the logical nodes LLN0, LPHD, LGOS, LSVS, and GGIO3**

Products: All with IEC 61850 software option

Impacted firmware: 8.30 to 8.43

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, the for the IEC 619850 logical nodes LLN0, LPHD, LGOS, LSVS, and GGIO3 the quality q.Test bit is always false and not updated when the IED behaviour changes. In firmware version 8.50, this issue is fixed.

GE tracking number: 850-27

E **Corrected FIRMWARE to allow retrieval of the service report over RS485**

Products: All

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, the retrieval of the service report over RS485 is failing. In firmware version 8.50, this issue is fixed.

GE tracking number: 850-28

CyberSecurity

G **Added enforcing of the password complexity rules for the setting “RADIUS Shared Secret”**

Products: All with CyberSentry software option

Impacted firmware: 7.00 to 8.43

Corrected firmware: 8.50

Workaround: None

Description: In the previous versions, the firmware was not enforcing the password complexity rules for the setting “RADIUS Shared Secret”. EnerVista Setup UR is already enforcing the password complexity. In the firmware version 8.50, the firmware enforces the password complexity rules for the setting “RADIUS Shared Secret”.

GE tracking number: 850-29

R **Added role logoff events when the serial communication link is severed**

Products: All with CyberSentry order code

Impacted firmware: 7.00 to 8.43

Corrected firmware: 8.50

Workaround: Always perform a manual role logoff.

Description: In the previous versions, if the serial communication link is abruptly severed without an explicit role logoff, the role logoff event is not recorded. In firmware version 8.50, this issue is fixed.

GE tracking number: 850-30

R **Correct firmware to log events "FW Lock" and "Settings Lock" in the Security_Events.csv file and in the Syslog**

Products: All with CyberSentry software option

Impacted firmware: 7.00 to 8.43

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, the relay did not log the events “FW Lock” and “Settings Lock” in the Security _Events.csv file and in the syslog. The functionality of the two settings is correct, just the events are not logged correctly. In firmware version 8.50, this issue is fixed.

GE tracking number: 850-31

Common Platform Functions

N **Enhanced oscillography record to include active protection settings**

Products: All

Impacted firmware: All

Affected firmware: 8.50

Workaround: None

Description: In previous versions, the active protection settings were not recorded when an oscillography was triggered. In firmware version 8.50, each oscillography record is supplemented with a record of the active protection settings at the trigger time. The filename is the same to that of the respective oscillography COMTRADE file but has the extension “.set”. When oscillography record is opened in the Enervista UR Setup software, the new icon allows displaying settings associated with the record. If record is saved with another name, the “*.set” file is saved with the same new name in the same folder.

GE tracking number: 850-32

G **Added support for 15 min increments for Local Time Offset setting**

Products: All

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In the previous versions, the Local Time Offset setting has a step of 0.5 hour. In the firmware version 8.50, the step of the “Local Time Offset” setting was decreased to 0.25 hour (15 min).

GE tracking number: 850-33

G **Added new setting for the station name**

Products: All

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In the previous versions, the UR relay did not have a dedicated setting for the station name. In the firmware version 8.50, a new setting was added for the station name: Settings -> Product Setup -> Installation -> Station Name. The station name value is used in the COMTRADE configuration (.cfg) file.

GE tracking number: 850-34

R **Corrected time codes and quality in datalogger COMTRADE files when using continuous mode**

Products: All

Impacted firmware: 7.40 to 8.43

Corrected firmware: 8.50

Workaround: None

Description: In the previous versions, when datalogger continuous mode is used the time code and quality values in the datalogger COMTRADE file were reflecting the values at the trigger time, which was not applicable to the continuous mode. In the firmware version 8.50, when datalogger continuous mode is used the time code and quality values in the datalogger COMTRADE file will reflect the value at the time of the record retrieval.

GE tracking number: 850-35

C **Fixed timestamps in the datalogger COMTRADE files to use DST**

Products: All

Impacted firmware: All

Corrected firmware: 8.50

Workaround: None

Description: In previous versions, timestamps in the datalogger COMTRADE files did not include the Daylight Saving Time (DST) time. In firmware version 8.50, this issue is fixed.

GE tracking number: 850-36

Software

Software 8.50

Retain HDR information after converting COMTRADE records.

Workaround: None

Description: The header file information will not be lost after converting a COMTRADE record.

Prompt to reboot the relay after changing SFTP protocol.

Workaround: None

Description: In relays with IEC 61850 and without CyberSentry software option, UR Setup 8.50 will prompt the user to reboot the relay after changing the setting "SFTP Protocol" (Product Setup -> Communications -> Protocol & Authority -> SFTP Protocol).

"Change Password" and "User Security" menus are removed under "Admin" menu.

Workaround: None

Description: **Change Password** and **User Security** menus are removed from the **Admin** menu in UR Setup 8.50, while the **Login User** menu is changed to **Factory Use Only: Login** to only allow pre-defined users such as GE customer service.

Fixed breaker status settings greyed out after importing the setting file

Workaround: None

Description: Some breaker status settings are grey out after importing the setting file, this issue is fixed in UR Setup 8.50.

The digital counters of C70 increased to 16

Workaround: None

Description: The digital counters of C70 is increased from 8 to 16.

Parameters of protection function can be displayed with COMTRADE file

Workaround: None

Description: When the oscillography (COMTRADE file) is triggered, the supporting protection parameters are publishing in a separate *.set file. The icon of **Open protection settings** on the COMTRADE tool bar allows the user to launch the *.set file which oscillography record is open.

Detect the invalid time/date info when opening the COMTRADE record

Workaround: None

Description: EnerVista UR Setup used to have "Unspecified Error" message and blank date and time fields issues when opening COMTRADE record, now they are fixed in EnerVista UR Setup 8.50 which can detect the invalid time/date information when opening the COMTRADE record.

Prompt messages and options before writing a new setting file to the relay.

Workaround: None

Description: EnerVista UR Setup will read the current IED MODE before writing the setting file to the relay, then with the warning message: "Current IED Beh: (value of the setting) IED Behavior is defined by the IED

Mode Config settings and new settings take immediate effect upon file transfer. Ensure that the IED Mode Config settings are set to the desired mode values. Refer to the Section IED Mode Config of the manual for details. Proceed with writing the settings to the relay?"

The options are to proceed writing the setting file to the relay or to cancel it.

New setting "Station Name" is added

Workaround: None

Description: The new setting "Station Name" is added under Installation to allow the user to associate the relay with the name of the substation or power plant.

New setting "Test Mode Trip Security" is added

Workaround: None

Description: The new setting "Test Mode Trip Security" to IED MODE CONFIG menu.

"Phasor" and "FFT" check boxes are removed from Analog Channels window.

Workaround: None

Description: "Phasor" and "FFT" check boxes are removed from Analog Channels window in UR Setup version 8.50.

Fixed the issue of saving CFF format COMTRADE file

Workaround: None

Description: Previously, when saving a COMTRADE file with 32bit float CFF format as the multi-file format, the timestamps are off by an hour. This issue has been corrected in UR Setup version 8.50.

The relay rejected updating the GFP firmware is fixed.

Workaround: None

Description: Previously, the relay (L90 with 90% CPU usage) rejected updating the GFP firmware. In UR Setup 8.50, this issue has been corrected.

Fixed GOOSE family is created for all the fixed GOOSE operands

Workaround: None

Description: Previously, the Fixed Goose Rem Device are shown inconsistently, in the

Flex Logic Equation Editor under "Protection Elements", while in Quick Navigation

they appear in the "Monitoring & Miscellaneous" family. In UR Setup 8.50, a new Fixed GOOSE family is created to host all the fixed GOOSE operands.

Solved Dataset incomplete issue after converting file into a different order code.

Workaround: Manually configure dataset after file conversion.

Description: Previously, Dataset becomes incomplete after file converted to a different order code. For example, "PBus.PcClkLTMS1.ST.PTPFail.stVal" changed to "End of List". In UR Setup 8.50 this has been corrected.

Fixed UR Setup becomes sluggish issue.

Workaround: None

Description: Previously, when Actual Values>Metering>Bus window is opened, the UR Setup became sluggish, almost unresponsive. In UR Setup 8.50 the frequency of downloading FlexOperandStates.txt file from the relay is reduced.

The size of the dataset summary is adjusted

Workaround: None

Description: Previously, Specific system display resolution (1920x1080) and scale setting (150%) affects UR Setup Dataset Summary view. Part of the Dataset Summary view does not display completely. In UR Setup 8.50 the size of the dataset summary has been adjusted.

Setting files imported from OpenSCD issue fixed

Workaround: None

Description: In EnerVista UR Setup 8.40, After importing OpenSCD generated SCD file, UR Setup creates invalid CID file. UR Setup 8.50 corrected an EnumType definition in its generated CID file.

Corrected the FlexElement name invisible issue.

Workaround: None

Description: Previously, for a version 7.2 setting file, customized FlexElement names are not displayed in Flexlogic Equation Editor – Graphical View. In UR Setup 8.50 this has been corrected.

Improved performance for downloading event records.

Workaround: None

Description: Previously When there are many Oscillography records in the relay, UR Setup takes too long to open Event Records. In UR Setup 8.50, the performance for downloading event records is improved.

Direct I/O number increased

Workaround: None

Description: For the UR products except B90, L30/90, the directly I/O number changed from 32 to 64.

Implemented IEC61850 modeling of Ethernet redundancy in main CPU and PBM

Workaround: None

Description: UR Setup 8.50 Implemented IEC61850 modeling of Ethernet redundancy in main CPU and PBM

UR Setup disables RxSV and resets AC banks on SCD import

Workaround: Include all RxSV IEDs in OpenSCD when creating SCD file

Description: RxSV and AC banks settings are defaulted when importing a OpenSCD generated SCD file. UR Setup 8.50 instructed user to include all RxSV IEDs in OpenSCD when creating SCD file.

UR Setup converting setting file of V5.60 to V6.0

Workaround: None

Description: After converting v5.60 setting file to v6.0x and uploaded it to relay with UR Setup 8.41, observed the "FLEXLOGIC ERROR Token 42: Stack not empty" Self test target on the relay. In UR Setup 8.50 this has been corrected.

RS232 Front port read the setting file initial time shows differences

Workaround: Read settings second time will correct this issue.

Description: When reading the settings first time from C60, there are setting differences comparing to Online Device. When read the settings 2nd times, there is no setting difference compared to Online device. UR Setup 8.50 corrected the issue by getting correct IEC61850 edition before reading settings from relay.

SCD file generated by Open SCD import into UR Setup

Workaround: Use SCL401 as first device in OpenSCD project.

Description: Previously, US Setup crashes when importing the SCD file generated by OpenSCD. UR Setup 8.50 fixed an issue in SCL file importing process.

IP address can be removed from files in service report

Workaround: None

Description: UR Setup 8.50 Implemented an option to remove IP address from files in service report.

UR Setup crashed issue fixed

Workaround: None

Description: Previously, UR Setup 8.42 crashed unexpectedly when opening some Logic Designer of a setting file. UR Setup 8.50 fixed the crashing issue.

6x module wrong labels in Logic Designer fixed

Workaround: None

Description: Previously, when there is a "6X" module in the order code, the first five Logic Designer's CONT OP objects will incorrectly display a the label "RESET", instead of "SEAL-IN". UR Setup 8.50 corrected the rules in Logical Designer for contact output with 6X module.

IEC 61850 settings appeared in file comparison report of the relay without IEC 61850 fixed

Workaround: None

Description: Two 61850 settings: **Initiated Test Mode On Sim** and **Sim mode Ctrl Via IEC 61850**, unexpectedly appear in file comparison report of the relays without order code of IEC61850. This issue is fixed in UR 8.50.

SV Stream Configuration window: Import button is greyed-out when the 9-2LE format is selected

Workaround: None

Description: SV Stream Configuration window: Import button is greyed-out when the 9-2LE format is selected. This issue is fixed in UR 8.50.

UR device now support six IEC 61850 simultaneous clients

Workaround: None

Description: From UR 8.50 devices, number of MMS connections has been increased to 6 from 5, seen in Actual Values -> Status- > Communication Status Remaining Connections.

Digital counter values available to GGIO

Workaround: None

Description: Digital counters will be available in GGIO4 Analog In Value configuration from UR Setup 8.50

Recording made "RcdMade" to become a pulse

Workaround: None

Description: In Oscillography, RcdMade is changed to Transient DO as per IEC 61850 Ed2.1 requirement.

UR device now support validation of SV based on SynchSrcID affixed to SV

Workaround: None

Description: From UR 8.50 devices, two new DOs GmIdChkOK and GmIdChkF are added to LSVS for

SynchSrcID implementation.

PMU implementation in UR devices to fully support optional CFG3 section from the IEEE C37.118 standard

Workaround: None

Description: In PMU Basic Configuration, these four new settings are added: Global ID, Latitude, Longitude, and Elevation to fully support optional CFG3 section from the IEEE C37.118 standard.

New setting Fallback GMID and new events and target are added.

Workaround: None

Description: From UR 8.50 devices, New GMIDCHK FAIL AND GMIDCHK OK Events, GMIDCHK Fail Target, and new setting Fallback GMID are added to PBM -> General Setting screen for 8.50 PBM devices.

SynchSrcID added to the Actual Value

Workaround: None

Description: From UR 8.50 devices, New Actual Value SynchSrcID is added under Actual Values -> Process Bus Module -> Status for 8.50 PBM devices.

Software 8.51

The software supports Windows 7, 8.1, 10 and 11.

Please contact your local Multilin sales representative or Multilin Customer Service Department for any questions regarding this upgrade.

Changes to Enervista Setup Software 8.51

"actSG" is instantiated with invalid value "0" in new CID if the attribute is missing in imported SCD

Workaround: None

Description: actSG" is instantiated with invalid value "0" in new CID if the attribute is missing in the imported SCD file.

What changed: If the attribute is missing in SCD, default value "1" will be used.

3rd party private namespace has no reference in SCL element xmlns after import from SCD file

Workaround: None

Description: Non-GE devices may have extended data (DOs, DAs, ...) with private namespace in DataTypeTemplates. This private extended data does not affect GOOSE and Sampled Values configuration for URs. It will therefore be removed during SCD import and therefore no longer requires additional xmlns in the SCL element in the new CID.

What changed: Implemented.

Limitation of only 1 ASDU allowed in SV Configuration for FW 8.50 has been removed

Workaround: None

Description: FW 8.50 only supports 1 ASDU in SV Configuration. FW 8.51 has now overcome the limitation, thus URPC is updated to support 1 or 2 ASDUs for FW 8.51, and will validate no. of ASDUs if the CID is intended for FW 8.50

What changed: Implemented.

Issue with Oscillography view

Workaround: None

Description: Oscillography view, Analog Channels in COMTRADE Preferences menu should restrict selecting any analog channels other than DSP channels for displaying PHASOR & FFT.

What changed: Implemented.

Upgrade

Compatibility

The current firmware runs on the T, U, V, and W CPU modules. View the order code to determine the CPU module in the relay. For example, in C60-V03-HPH-H6H, the relay has a V CPU module.

The graphical front panel requires a T, U, V, or W CPU module that has two connector slots on the front of the module. One connector allows a basic or enhanced front panel to be connected, and the other connector allows a graphical front panel.

The current firmware release is not compatible with previous UR CPU hardware (CPU types A, B, D, E, G, H, J, K, N, and S).

The current firmware release requires EnerVista UR Setup software version 8.0x or higher. GE suggests use of the latest available version of the software.

Upgrade

When upgrading both EnerVista software and UR firmware, upgrade the software first. Upgrade of the software takes about five minutes. When upgrading EnerVista software on a computer with Windows Server 2012, its Release 2 needs the KB2919355 update first. Follow the instructions described in the following link

https://www.microsoft.com/en-US/download/details.aspx?id=42334

The firmware can be upgraded over an Ethernet connection or a serial connection (RS-232, RS-485, or USB in relays with graphical front panel) and may take between 10 to 60 minutes depending on the relay's order code and the channel used for the firmware upgrade.

Any DSP manufactured between 1 September 2011 and 1 December 2015 installed in a relay with firmware version 7.25 or higher minor revision, 7.32 or higher minor revision, 7.40 or higher minor revision, 7.60 or higher minor/major revision must be sent back to the factory for updates before updating the firmware. This is to prevent potential nuisance alarms ('Module Failure 31' or 'Diagnostic Alarm', depending on firmware version).

To upgrade the software:

1. If a beta version of the EnerVista UR Setup software is installed, uninstall it, for example using the Windows Control Panel.
2. Download the new software from http://www.gegridsolutions.com/app/ViewFiles.aspx?prod=urfamily&type=7
   The software is a .exe file.
3. Install the new software by (double-)clicking the file.
4. Refresh the order code in EnerVista under the **Device Setup** button.

To upgrade the firmware:

1. Download the firmware from http://www.gegridsolutions.com/app/ViewFiles.aspx?prod=urfamily&type=7
   The firmware is a .SFD file.
2. Under **Settings > Product Setup > Security > Access Supervision** or **Settings > Product Setup > Security > Supervisory**, the **Lock Firmware** setting needs to be disabled.
3. In the EnerVista software, navigate to **Maintenance > Update Firmware** and select the .SFD file.
   For any issues, see a UR instruction manual.

When the upgrade finishes, the relay restarts.

4. Reconnect the EnerVista software to the relay and refresh the order code in EnerVista under the **Device Setup** button.
5. Convert any existing settings file, then load the converted settings to the relay. See the instruction manual for information.
6. Set the device to "Programmed" under **Settings > Product Setup > Installation** to put it into service.
7. If you changed the **Lock Firmware** setting, reset it.

Categories

This document uses the following categories to classify changes.

Code	Category	Description
A	Hardware change	This change may require hardware to be updated and/or replaced
N	New feature	A separate feature added to the relay. Changes to existing features even if they significantly expand the functionality are not in this category.
G	Change	A neutral change that does not add new value and is not correcting any known problem
E	Enhancement	Modification of an existing feature bringing extra value to the application
D	Changed, incomplete, or false faceplate indications	Changes to, or problems with text messages, LEDs, and user pushbuttons
R	Changed, incomplete, or false relay records	Changes to, or problems with relay records (oscillography, demand, fault reports, and so on)
C	Protocols and communications	Changes to, or problems with protocols or communication features
M	Metering	Metering out of specification or other metering problems
P	Protection out of specification	Protection operates correctly but does not meet published specifications (example: delayed trip)
U	Unavailability of protection	Protection not available in a self-demonstrating way so that corrective actions can be taken immediately
H	Hidden failure to trip	Protection does not operate when appropriate
F	False trip	Protection operates when it is not appropriate
B	Unexpected restart	Relay restarts unexpectedly

For further assistance

For product support, contact the information and call center as follows:

GE Grid Solutions
650 Markland Street
Markham, Ontario
Canada L6C 0M1
Worldwide telephone: +1 905 927 7070
Europe/Middle East/Africa telephone: +34 94 485 88 54
North America toll-free: 1 800 547 8629
Fax: +1 905 927 5098
Worldwide e-mail: multilin.tech@ge.com
Europe e-mail: multilin.tech.euro@ge.com
Website: http://www.gegridsolutions.com/multilin/